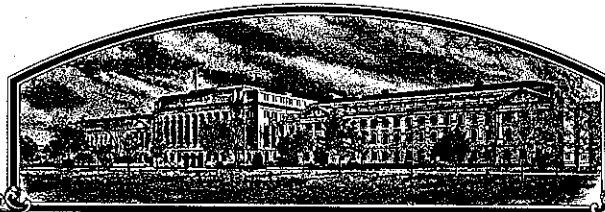


No.



8300116

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Nickerson American Plant Breeders, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (34 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Blazer'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 30th day of August in the year of our Lord one thousand nine hundred and eighty-five.

Attest

Kenneth A. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

John R. Blum
Secretary of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

FORM APPROVED
OMB NO. 40 R3222

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY SW74-08A-8		1b. VARIETY NAME Blazer		FOR OFFICIAL USE ONLY PV NUMBER 8300116	
2. KIND NAME Soft Red Winter Wheat		3. GENUS AND SPECIES NAME <u>Triticum aestivum</u>		FILING DATE 5/2/83	TIME 8:00 A.M.
4. FAMILY NAME (BOTANICAL) Gramineae		5. DATE OF DETERMINATION 1) Sept. 1978 2) Sept. 1981		FEE RECEIVED \$ 1,000 \$ 500.00	DATE 5/2/83 7/16/85
6. NAME OF APPLICANT(S) NICKERSON North American Plant Breeders, Inc.		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 5201 Johnson Dr., P.O. Box 2955 Mission, KS 66201		8. TELEPHONE AREA CODE AND NUMBER 913-384-4940 KS 303-532-3721 CO 317-563-3111 IN	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.)		10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION		11. DATE OF INCORPORATION	
12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: R.E. HEINER G.E. Dixon P.O. Box 2955 Mission, KS 66201 ROBERT F. BRUNS R.E. Heiner of C. Bruns P.O. Box 30 Berthoud, CO 80513 DR. KOY E. MISKIN R.R. NO. 2, Box 411 BROOKSTON, IN 47923					
13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:					
<input checked="" type="checkbox"/> 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)					
<input checked="" type="checkbox"/> 13B. Exhibit B, Novelty Statement.					
<input checked="" type="checkbox"/> 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)					
<input checked="" type="checkbox"/> 13D. Exhibit D, Additional Description of the Variety.					
<input checked="" type="checkbox"/> 13E. Quality and Statistical Data.					
14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED? <input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED		
15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If "Yes," give name of countries and dates.)					
15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If "Yes," give name of countries and dates.)					

RECEIVED APR 1 1 1983

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? ☒ YES ☐ NO
17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.
- The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

April 8, 1983
(DATE)

April 25, 1983
(DATE)

Robert E. Heiner
(SIGNATURE OF APPLICANT)

G.E. Dixon
(SIGNATURE OF APPLICANT)

Exhibit A

Origin and Breeding History of Blazer

Pedigree: Olesen/Lewis//W-504

Date of Cross: Fall, 1973

Breeding History: The breeding history began in the fall of 1973 when a F₂ selection of the cross Olesen/Lewis was crossed to W-504. The F₁ was increased in the field in 1974. F₂ selections were made in 1975 in the field and advanced by single seed descent through the F₃ and F₄ generations in 1976. Single F₅ head-rows were grown in 1977 and selections were made. From the 1978 preliminary yield trials, a line was identified which became SW74-08A-8. In 1980, 136 head-rows were bulked at Brookston, Indiana to produce Breeder seed. Approximately 5,240 pounds of Foundation seed were produced in 1982. Blazer is uniform and stable.

Exhibit B

Novelty Statement

Blazer is most similar to the soft red winter wheat Dancer. However, it can be distinguished by the following morphological characteristics:

- Blazer and Dancer differ significantly in beak length (see Exhibit E, page 2).
- Blazer has a narrow glume width at maturity. Dancer has a medium glume width at maturity (PVP Certificate #8000012).
- Blazer has a black phenol reaction; color category V. Dancer has a light brown phenol reaction; color category III (PVP Cert. #8000012).

Anova Table for Beak Length Study

Varieties: Dancer, Blazer

<u>Source</u>	<u>df</u>	<u>ss</u>	<u>ms</u>
Total	49	42.44	
VAR	1	15.79	15.79**
Error	48	26.65	.56

F Test (V/E) = 28.20

F Value (1,48) = $\begin{pmatrix} (.05) & 4.04 \\ (.01) & 7.20 \end{pmatrix}$

** The difference of varietal beak length is significant at both the 5% and 1% levels.

<u>VAR</u>	<u>Mean</u>
Dancer	3.93 mm
Blazer	2.81 mm

LSD (5%) = .43 mm
 LSD (1%) = .55 mm

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

NICKERSON
North American Plant Breeders, Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

5201 Johnson Dr., P.O. Box 2955
Mission, KS 66201

FOR OFFICIAL USE ONLY

PVPO NUMBER

8300116

VARIETY NAME OR TEMPORARY
DESIGNATION

Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in first box (e.g., or) when number is either 99 or less or 9 or less.

1. KIND:

 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

 1 = SPRING 2 = WINTER 3 = OTHER (Specify) _____ 1 = SOFT 3 = OTHER (Specify)
2 = HARD

 1 = WHITE 2 = RED 3 = OTHER (Specify) _____

3. SEASON - NUMBER OF DAYS FROM _____ TO:

 FIRST FLOWERING January 1 LAST FLOWERING

4. MATURITY (50% Flowering):

 NO. OF DAYS EARLIER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS
 NO. OF DAYS LATER THAN 4 = LEMHI 5 = NUGAINES 6 = LEEDS
7 = Arthur 71

5. PLANT HEIGHT (From soil level to top of head):

 CM. HIGH
 CM. TALLER THAN 7 = Arthur 71
 CM. SHORTER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS
4 = LEMHI 5 = NUGAINES 6 = LEEDS

6. PLANT COLOR AT BOOTING (See reverse):

 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHUR COLOR:

 1 = YELLOW 2 = PURPLE

8. STEM:

 Anthocyanin: 1 = ABSENT 2 = PRESENT

 Waxy bloom: 1 = ABSENT 2 = PRESENT

 Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT

 Internodes: 1 = HOLLOW 2 = SOLID

 NO. OF NODES (Originating from node above ground)

 CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

 Anthocyanin: 1 = ABSENT 2 = PRESENT

 Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

 Flag leaf at booting stage: 1 = ERECT 2 = RECURVED.
3 = OTHER (Specify): _____

 Flag leaf: 1 = NOT TWISTED 2 = TWISTED

 Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT

 Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT

 MM. LEAF WIDTH (First leaf below flag leaf)

 CM. LEAF LENGTH (First leaf below flag leaf)

FORM GR-470-6 (REVERSE)

11. HEAD:

3 Density: 1 = LAX 2 = DENSE 3 = middense

1 Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE
4 = OTHER (Specify) _____

4 Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

1 Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED
5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

7.5 CM. LENGTH

11 MM. WIDTH

12. GLUMES AT MATURITY:

2 Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.)
3 = LONG (CA. 9 mm.)1 Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.)
3 = WIDE (CA. 4 mm.)2 Shoulder 1 = WANTING 2 = OBLIQUE 3 = ROUNDED
shape: 4 = SQUARE 5 = ELEVATED 6 = APICULATE3 Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE short
average 2.8

13. COLEOPTILE COLOR:

1 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

2 1 = ABSENT 2 = PRESENT (slight)

15. JUVENILE PLANT GROWTH HABIT:

2 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

3 Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

1 Check: 1 = ROUNDED 2 = ANGULAR

2 Brush: 1 = SHORT 2 = midlong 3 = LONG

1 Brush: 1 = NOT COLLARED 2 = COLLARED

5 Phenol reaction 1 = IVORY 2 = FAWN 3 = LT. BROWN
(See instructions): 4 = BROWN 5 = BLACK*approximately 40% of seeds exhibit
collared brush.

3 Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

6.4 MM. LENGTH

3.1 MM. WIDTH

35 GM. PER 1000 SEEDS

17. SEED CREASE:

1 Width: 1 = 60% OR LESS OF KERNEL 'WINOKA'
2 = 80% OR LESS OF KERNEL 'CHRIS'
3 = NEARLY AS WIDE AS KERNEL 'LEMHI'1 Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT'
2 = 35% OR LESS OF KERNEL 'CHRIS'
3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) 3 = moderate susceptible 4 = moderate resistant

3 STEM RUST (Races) field races 3 LEAF RUST (Races) field races 0 STRIPE RUST (Races) 0 LOOSE SMUT

4 POWDERY MILDEW 4 Septoria, Rhizotonia 2 OTHER (Specify) SBMV

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) 3 = moderate susceptible 4 = moderate resistant

0 SAWFLY 0 APHID (Bydv.) 0 GREEN BUG 0 CEREAL LEAF BEETLE

0 OTHER (Specify) _____ HESSIAN FLY RACES: } 0 GP 0 A 1 B 1 C
1 D 0 E 0 F 0 G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Dancer	Seed size	Dancer
Leaf size	Dancer	Seed shape	Dancer
Leaf color	Dancer	Coleoptile elongation	Dancer
Leaf carriage	Dancer	Seedling pigmentation	Dancer

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggie and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

Exhibit D

Additional Description of Blazer

NICKERSON

Blazer is a soft red winter wheat bred and developed by North American Plant Breeders, Inc.. It was tested under the experimental number SW74-08A-8.

Blazer is an intermediate height variety with good straw strength, early maturity and good winterhardiness. Milling and baking qualities are good.

Juvenile plant growth habit is semi-erect. Plant color at boot is green with recurved, twisted flag leaf. Head shape is tapering to strap, middense, awned and head color is white at maturity. Glumes are of medium length and narrow in width with oblique to wanting shoulders and a short acuminate beak. Seed shape is elliptical to ovate with rounded cheeks; approximately 40% of seed exhibit a collared brush. Seed crease width is narrow and depth is shallow.

Blazer is adapted to the soft red winter wheat area north of Tennessee and from Missouri east through Ohio.

EXHIBIT E

QUALITY DATA

North American Plant Breeders

1980

(Brookston, IN; Burdette, AR; Greenville, MS)

Variety	Milling			Baking			Scores	
	Test Wt. (#/Bu.)	% Wheat Protein	% Break Flour	% Flour Protein	Cookie Dia. (mm)	Top Grain	Mill	Bake
Blazer	60.6	11.9	36.2	65.8	85.0	8	C	B
Arthur 71	59.4	12.7	35.1	65.7	86.7	8	C	B

1981

(Brookston, IN; Chillicothe, OH; Findlay, OH; Pana, IL; Haubstadt, IN)

Blazer	57.7	12.1	44.2	70.7	11.3	87.5	7	B
Arthur 71	58.6	13.3	43.2	73.2	12.2	88.3	7	C

Letter Grades: A = Excellent, B = Good, C = Acceptable, D = Questionable

Quality characteristics of Blazer compared to Arthur 71 over these locations indicate that Blazer is equal to or superior to Arthur 71 in overall milling and baking quality.